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ABSTRACT

The evaluation of the Learning Booth program is reported. The program involves a Learning Booth equipped with an electric typewriter and staffed by a trained attendant, a sequence of child-paced instructions, a training program for Learning Booth attendants, and other related materials. Two main objectives were evaluated: (1) offering a child an experience where he can learn to solve problems and find answers by himself--it was expected that some would complete the program, reach Phase V, and that 75% would complete Phase III by the end of the year; to evaluate this objective, information was obtained from 2,454 1970-71 kindergarten and first-grade child performance records from 15 Follow Through districts using the Learning Booth; and (2) providing training--two approaches were evaluated. In the first, Senior Booth Attendants came to the Laboratory for 5 days of training, returned to their districts, set up a booth, and trained attendants; the criterion was that 80% would perform at acceptable levels. The second training approach was to give attendants only the guide. The child performance data showed that 91% of the children completed the year typing at or above Phase III. The data also showed that for kindergarten children, performance in the booth is directly related to the effectiveness of the booth attendant. Evaluation of training was based on observation. For the first training method, 82% of the booths were judged "good to excellent." For the second method, half were considered excellent. (For related document, see PS 006 669.) (Author/KM)

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THE LEARNING BOOTH product evaluation report

h234567890q wertyuiopasdfghjkl;'
This is Ggeorge. He lived with his friend, the man with the yellow hat.

234567890QWERTYUIOPASDFGHJKL:"Z
XCVBNM,.? Who am I?? MY name is Ned. I do not like my little bed.
Kie C.

FAR WEST LABORATORY FOR EDUCATIONAL
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THE LEARNING BOOTH

PRODUCT EVALUATION REPORT

FAR WEST LABORATORY FOR EDUCATIONAL RESEARCH AND DEVELOPMENT

DIVISION III - EARLY CHILDHOOD EDUCATION AND DEVELOPMENT

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February, 1972

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ABSTRACT

Title: The Learning Booth - Product Evaluation Report

Author: Nicholas Rayder with contributions from Joan Abbey, Margery Nakamura, Glen Nimnicht and Anne Rhodes

Date: February, 1972

I. Purpose:

This report describes the evaluation of the Learning Booth program--a product of the Far West Laboratory.

The product is:

1. A Learning Booth equipped with an electric typewriter and staffed by a trained attendant;
2. A sequence of child-paced instructions used in the Learning Booth;
3. A training program for Learning Booth attendants; and
4. Other related materials

II. Procedures:

The Learning Booth program required the evaluation of two main objectives:

Objective 1 - Offering a Child an Experience Consistent with the "Responsive Environment" Program: The primary objective of the Learning Booth is to offer a child an experience where he can learn to solve problems and find answers by himself. It was expected that if the booths operated effectively, some would complete the booth program (reach Phase V) and that the majority (75%) would complete Phase III by the end of the year. In order to evaluate this objective, information was obtained from 2454 1970-71 kindergarten and first grade child performance records from 15 Follow Through districts using the Learning Booth.

Objective 2 - Providing Training: The second objective was to provide sufficient training to enable the user to set up and operate a Learning Booth for young children. Two approaches to training were tried and evaluated.

The first approach required having Senior Booth Attendants from each Follow Through district travel to the Laboratory for training. After five days of training, the Senior Booth Attendants returned to their districts to set up a booth and train the other booth attendants. The criterion for meeting this objective was that 80% of the attendants would perform at acceptable levels, consistent with the responsive environment guidelines and operational procedures outlined in the Guide for Learning Booth Attendants.

The second approach to training was to give prospective booth attendants only the guide to see if the guide alone could provide sufficient information to allow them to set up and operate a Learning Booth.

III. Findings:

Objective 1. Examination of the child performance data showed that for booths in districts who satisfactorily implemented the program, 91% of the children completed the year typing at or above Phase III. Further, 80% of these children completed Phase IV, and 55% completed Phase V.

The criterion for Objective I as also met by districts with unsatisfactory implementation where just three-fourths of the children completed Phase III (3-4). In

the poorly implemented districts, only 40% of the children completed Phase III (3-4). Overall, the performance of children in unsatisfactorily implemented districts was considerably lower than in districts offering a satisfactory booth experience.

The data also show that for kindergarten children, performance in the booth is directly related to the effectiveness of the booth attendant, with children who worked with more highly rated attendants showing higher achievement. This relationship was not found for first grade children probably due to the fact that first grade achievement was high since the older first graders achieve final phases quicker than kindergarteners.

Additionally, it was found that compared to previous years, the 1970-71 child achievement data showed progress in booth operation for both kindergarten and first grade children. Besides two years of experience, the main programmatic variable thought to account for the progress in achievement was the Senior Booth Attendant.

Objective 2: The evaluation of the first part of the training program was based on observation information.

Sixty observations were conducted at 10 sites by the same Laboratory observer and 82% of the 60 booths were judged to be operating at a "good to excellent" level, 18% were judged not satisfactory, and only three booths were judged as "poor".

Another approach to training was undertaken where the Laboratory hired four learning Booth Attendants in a local school district and gave them only the Guide for Learning Booth Attendants for their training. At the end of five months, two of the four attendants were operating "excellent" booths, as judged by the Laboratory observer.

IV. Conclusions:

Based upon the findings, the developers place confidence in the Learning Booth program's ability to meet its stated objectives and release it as a product of the Far West Laboratory for Educational Research and Development.

Note: Additional Research on the Learning Booth is underway. Preliminary analyses and findings are printed in a separate report. These efforts are summarized below:

1. Learning Booth Performance and Subsequent Reading Ability - Learning Booth achievement data was analyzed in conjunction with first-grade reading scores for 65 Follow Through children. The Learning Booth experience accounted for about 13% of end of first grade reading scores over and above intelligence test scores. Although modest, it was felt to be a noteworthy contribution given the restricted nature of the criterion instrument and the time lapse between booth training and subsequent reading assessment.

2. A Measure of Intelligence and Subsequent Learning Booth Performance - The relationship between Learning Booth achievement and scores on four subtests of the Wechsler Preschool and Primary Test of Intelligence was investigated for 36 kindergarten children. The correlation between WPPSI scores and time spent in the booth was .14, suggesting little relationship between these variables. The correlation between WPPSI scores and final phase completed was also negligible. The notion was advanced that Learning Booth performance, because of the nature of the Learning Booth experience, is a good index of a child's learning ability.

DIVISION III

THE LEARNING BOOTH - PRODUCT EVALUATION REPORT

PART I - THE PRODUCT

A. Introduction

This report describes the evaluation of the Learning Booth program. As a result of this evaluation, the Laboratory is releasing the program as a product of the Laboratory. In its current form, the Learning Booth is designed primarily for use with four-, five-, and six-year-old children.

B. A Short History of the Product

In 1963, Omar K. Moore defined a responsive environment as one that satisfies the following conditions:

1. It permits the learner to explore freely.
2. It informs the learner immediately about the consequences of his actions.
3. It is self-pacing, i.e., events happen within the environment at a rate determined by the learner.
4. It permits the learner to make full use of his capacity for discovering relations of various kinds.
5. Its structure is such that the learner is likely to make a series of interconnected discoveries about the physical, cultural, or social world.[1)]

Moore labled such an environment "responsive" and proceeded to build an educational experience for young children that incorporated and encouraged these principles. As the center of this experience, Moore and an engineer from McGraw Edison designed a special typewriter, a computer-linked machine that could be easily programmed to respond to children in a variety of ways. The machine became known as the "talking typewriter" and was the cornerstone of Moore's Hamden Hall Country Day School for young children (ages 3 to 6) located in Hamden, Conn. In his school, Moore used one computer-assisted booth operated "offstage" by a booth attendant. He also used three booths with electric typewriters and booth attendants who responded to children inside the booth. Children in the school were invited to go to one of

1) Moore, Omar Khayyam, "Autotelic Responsive Environments and Exceptional Children," Responsive Environments Foundation, Inc., 20 Augur St., Hamden, Conn., Sept. 1963.

the typewriter booths and they went or did not go as they chose. When in the booth, the child engaged in a variety of development skills such as speaking, writing, listening and reading.

In 1964 Glen Nimnicht started the New Nursery School (NNS) in Greeley, Colorado, for three and four-year old children from low-income homes.[2] After visiting the Hamden school, observing the booth and discussing with Moore the notion of a responsive environment, Nimnicht was convinced the approach had merit. Consequently, as part of the NNS operation, one of the major concerns was to test the responsive environment typing or learning booths. Initially, two booths were set up for three and four-year old children. At this time it was not possible to use the computerized typewriter because it was not available. When it became available, it was not used because of its expense (about $30,000 at that time), which priced it out of most educational markets.

After three years of experimental work at the New Nursery School, it was concluded that the booth experience was not particularly valuable for the three-year-old children in the school; the achievement of five-year-old children who had two years of experienced in the booth could not be distinguished from that of five-year old children with one year of booth experience. The booth was, however, concluded to be successful for four-year-old children.

In 1968, 15 communities contracted with the Laboratory to offer a Follow Through program for five-, six-, seven- and eight-year-old children. Since the Learning Booth was successful with four-year olds in the NNS, it was felt that it might also be a valuable experience for kindergarten and first-grade children.

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2) Nimnicht, Glen et al, "Interim Report: Research on the New Nursery School," Colorado State College, Greeley, Colorado, Dec. 1967. For a more complete description of the Responsive Model, its objectives and procedures see: Nimnicht, G. et al, The New Nursery School, General Learning Corp., Early Learning Division, N.Y., 1969.

Extensive development of the Learning Booth was undertaken. It was field tested in each of the 15 Follow Through communities during the 1968-69, 1969-70, and 1970-71 school years. This report describes the field testing of the Learning Booth.

C. A Clarification of the Product

The Product is:

1. A Learning Booth equipped with an electric typewriter and staffed by a trained attendant;
2. A sequence of child-paced instructions used in the Learning Booth; and
3. A training program for Learning Booth attendants.

The product consists of:

1. An electric typewriter with a foot switch;
2. Supplementary materials:
   a. Chalk board
   b. Magnetic letters and magnetic board
   c. Durrell-Murphy Phonics Practice Program
   d. Phonogram Matrix cards
   e. A set of card games
   f. Record keeping forms;
3. A Guide for Learning Booth Attendants.

How the Product Functions

In each kindergarten, or first grade in school districts which do not have kindergarten, a booth attendant asks a child two or three times a week if he would like to "play with the typewriter." If the child says "yes," the attendant takes him to a booth equipped with an electric typewriter and other related materials. The child is allowed to play with the typewriter for as long as ten minutes. The

child begins in the booth by exploring the typewriter while the attendant responds to the child by naming the symbols he strikes, such as "X, A, Y, M, B, return." The child will move from this first phase of Free Exploration to typing a letter that is shown to him. Eventually, the child progresses to typing words of his own choice, then to typing stories he has composed.

Learning Booth Activities

The rules that guide the booth activities are:

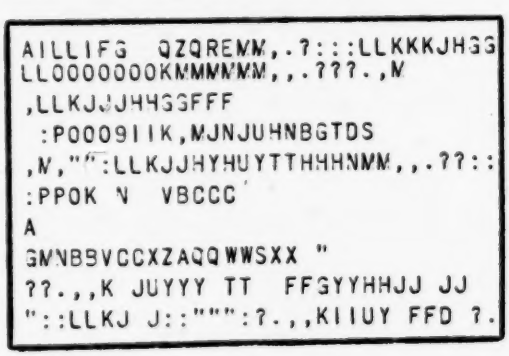
1. Anytime a child asks to leave the booth, he may do so.
2. Anytime a child asks to play in an earlier phase, he may do so.
3. Anytime a child initiates conversation, the booth attendant responds but the attendant does not initiate conversation.
4. The booth attendant asks a child to type only once a day. If he says "no," the attendant does not ask again. If the child asks to type later on, he may do so.

The Learning Booth games have been divided into five phases:

Phase I - Free Exploration

The child plays with the typewriter while the booth attendant tells him what he is doing and the typewriter shows him what he has done. As the child strikes letters, numbers, and punctuation marks, the attendant names them. When a child hits more than one key at a time, the typewriter jams and is turned off by the attendant using an electric foot switch. The child discovers, therefore, that the typewriter works only when he strikes one key at a time. As far as the youngster is concerned, he is not learning the names of letters, numerals, and punctuation marks, but he is learning to associate abstract symbols and sounds.

A child is ready to move from Phase I to Phase II when the booth attendant can answer yes to these questions: Has the child been in the booth at least three times? Does he usually type one key at a time? Does he use the return key correctly?



Phase II - Search and Match

Step 1 In Phase II the child matches letters on the keyboard with magnetic and printed letters. In both steps of this phase, the typewriter remains off as long as the child searches for the letter shown by the booth attendant; the attendant turns the typewriter on as the child types the letter.

Step 2 Step 2 of Phase II makes use of cards. One letter or numeral is on each card and the child searches the keys to match that letter or numeral. The child learns to match correctly because the typewriter and booth attendant respond only to correct matches.

Phase III - Discrimination

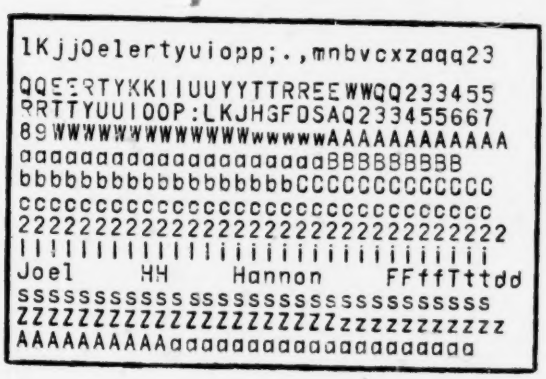
When a child matches most letters and numerals in Phase II, Step 2, he is ready for Phase III.

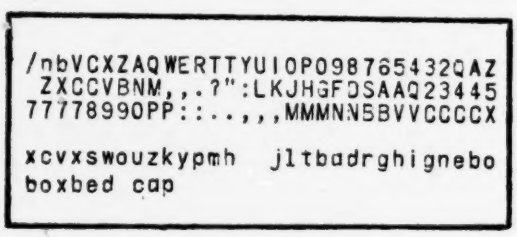
Step 1 In Phase III, Step 1, the child discriminates between two or more letters on cards which are shown to him. The booth attendant names one of the letters and the child must decide which letter to type. The first cards show letters that look very different, for example C and X. Later cards have letters such as P and R, and finally there are letters that look and sound alike such as C and G. Thus, the task gradually becomes difficult.

Step 2 In Step 2 of Phase III, the child matches capital letters with their corresponding small letters. The booth attendant writes one to four capital letters across the top of a chalkboard and the same small letters across the bottom in a different order. The child draws a line from each capital to its corresponding small letter.

Step 3 Cards with capital and small forms of letters are used in Phase III, Step 3. The child learns to use the upper and lower case keys.

Step 4 The cards in Step 4 have only small letters printed on them. The child must find the corresponding capital letter on the typewriter.





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Phase IV - Words and Stories

In Phase IV, the booth attendant begins to ask the child if he would like to type a word. If the child doesn't know what a word is, he is told that his name is a word. When the child tells the booth attendant a word, he prints it on a flashcard and lets the child type it using capital and small letters correctly.

When the child recognizes eight to ten words, he is asked if he would like to write a story. As the child tells the story, the booth attendant prints it, reads it, and tells the child he may type the story if he wishes.

AWXCDVHJTThe boy was going out t
o play on a rainy day but he d
J
didnt have anything to wear but
swethers he climbed over the fence
and another fence then he was i
in the playground there was no on
e there except the teacher and th
e the principal.
Story by Joel

234F5678901QWERTYUIOPAWASDFGHJKL:
ZXCVBNM,.?23 5467890IASDFGHJKL:"Z
ZXCVBNM,.?234567890ASDFGHJKL:"ZXC
We heard a book about the three
little pigs the and.
Tracey H.

Phase V - Classroom-Related Activities

Step 1 In Phase V, Step 1, the child is presented with Durrell-Murphy cards. One card might show a picture of a cat and the words "pat," "sat," and "cat." The child types the word which best describes the picture.

Step 2 Step 2 is a variation of story writing in which the child writes a note to a friend in the classroom.

Step 3 Step 3 is word discrimination with phonograms. The child sees a card containing a phonogram matrix such as the following:

map	rap	tap
mug	rug	tug
man	ran	tan

One word is covered and the rule is for the child to type that word. In the above phonogram, the child can discover what the word is if he notices that the beginnings are the same in each column and the endings are the same in each row.

Step 4 In the last step in Phase V, the child brings a book to the booth which the attendant reads to the child. The child is given a chance to read the words he knows and to type any of the words from the book.

h234567890q wertyuiopasdfghjkl;'
This is George. He lived with his friend, the man with the yellow hat.

Tommy thought he was JUST right. His legs were long enough to reach the ground. And his head was as high as his cap.

Tracey H.

D. What Can We Say About This Product?

Strictly interpreted, any statement that goes beyond a careful summary of what is reported in the Evaluation section is generalizing beyond available data. It has not been possible to approach a random sample of any clearly defined population of potential users that could be used to make generalizations about the effectiveness of the program to the broad educational community. The Laboratory accepts the responsibility, however, of making reasonable statements of what the developers believe can be said about the product.

We can make the following statements with considerable confidence:

1. Given the presence of a Senior Booth Attendant trained by the Laboratory and satisfactory booth operation, three-fourths of the children after a nine-month experience will be performing above Phase III (3-4).

2. With the support of one Senior Booth Attendant trained by the Laboratory, 80% of the Learning Booth attendants in a Learning Booth program will be operating booths in a satisfactory manner.

3. The Guide for Learning Booth Attendants can be used alone as a training instrument for Learning Booth attendants. When the adults are selected as attendants on the basis of their desire to work with children and they make a concentrated effort to implement the program, those adults trained only with printed material could initiate and operate a Learning Booth.

PART II - PRODUCT EVALUATION

A. Objective I - Offering a Child an Experience

The primary objective of the Learning Booth is to offer a child an experience in which he can learn to solve problems and find answers by himself; in which he can discover relationships or/and rules; and in which he can develop an attitude that encourages problem solving. A child who depends on himself to learn has learned how to learn.

Most problems presented in the booth are related to reading. But teaching language development skills that lead to reading and writing is not the purpose of the booth. If a child learns to read and write while he is learning to solve problems, that is a bonus.

Criterion Statement

During the first two years, no criterion was set in terms of what level of performance would indicate success of the program. There was more concern with the nature of the learning experience. However, on the basis of previous data, in the third year we did expect that if the booths operated effectively, some children would complete the booth program (reach Phase V) and that the majority (75%) would end the year completing Phase III.

In terms of specific skills, completing Phase III would mean that the child:

a. has learned that the typewriter only works when he strikes one key at a time,
b. has discovered the purpose of the "return" key,
c. can match most of the letters, that is, when shown a letter he can find it and will type it,
d. has discovered the rules for discrimination,
e. can discriminate between a majority of letters, that is, when he is shown two letters and the booth attendant names one of them, he finds the letter on the keyboard and strikes it,
f. can solve a problem involving eliminating known responses, to arrive at an unknown response,
g. can associate the capital and lower case forms of most letters,
h. has discovered how to use the "shift" key.

Findings

Child Outcomes

Information to satisfy this Objective I was obtained from 2454 1970-71 kindergarten and first-grade child-performance records from 15 districts. First, districts were grouped to reflect the quality with which the Learning Booth had been implemented.

Group I reflected satisfactory implementation by nine districts and was characterized by the following:

a. Booth operated from beginning of year.
b. Physical environment of booth layout satisfactory.
c. All booth procedures followed.
d. Administrative support in securing materials for booth, hiring personnel, and arranging for scheduling and/or
e. Enthusiasm by booth attendants to operate booth and maintain booth training procedures.

Group II represented unsatisfactory implementation by four disticts and was characterized as follows:

a. Booths operated most, but not all of school year.
b. Some booths in district were in unpleasant locations--with poor facilities and/or
c. Most but not all booth procedures followed and/or
d. High booth staff turnover, consequently much time spent in retraining booth attendants.

Group III reflected unsatisfactory, poor implementation by two districts. The characteristics were:

a. Booths operational a small part of year due to organizational problems or theft of equipment.
b. Poor physical facilities.
c. Poor local training, consequently booth procedures not followed and/or
d. No administrative support for booth program.

We stated that we would determine the product "acceptable" if three-fourths of the children participating in satisfactory Learning Booth operations completed Phase III.

The evidence satisfies the stated criterion and our expectations. As shown in Table 1 and Figure 1, for booths operating in a satisfactory manner, 91% of the children completed the year typing at or above Phase III, Steps 3-4. Further, 80% of the children completed Phase IV, and 55% completed Phase V. That is, in addition to skills listed above, by the end of the year 55% of the children in Group I districts had experiences where they did the following things:

a. type words and stories,
b. use Durrell-Murphy cards. One card might have a picture of a cat and the words "pat," "sat," and "cat." The rule is for the child to type the correct word "cat."
c. type notes to a friend and read that note,
d. discover rules in a phonogram matrix game,
e. identify and say words he recognizes in a storybook chosen by the child and read by the booth attendant.

The criterion for Objective 1 was also met by Group II districts, where just three-fourths of the children completed Phase III. As shown in Figure 1, performance of children in groups II and III is considerably lower than districts offering a satisfactory booth experience.

Only 40% of the children in Group III completed Phase III, Steps 3-4 and about one out of ten completed all the experiences offered in the booth.

Table 1. PERCENT OF KINDERGARTEN AND FIRST GRADE CHILDREN WHO COMPLETED EACH PHASE AT END OF 1970-71 FOR THREE LEVELS OF BOOTH IMPLEMENTATION

Group	Number of Districts	Number of Children	Percent Completing Phase					
			I	II	III 1-2	III 3-4	IV	V
I. Satisfactory	9	1549	100	99	97	91	80	55
II. Unsatisfactory	4	714	100	98	94	75	59	39
III. Unsatisfactory (Poor)	2	191	100	96	78	40	21	13
TOTAL	15	2454	1	4	13	13	22	47

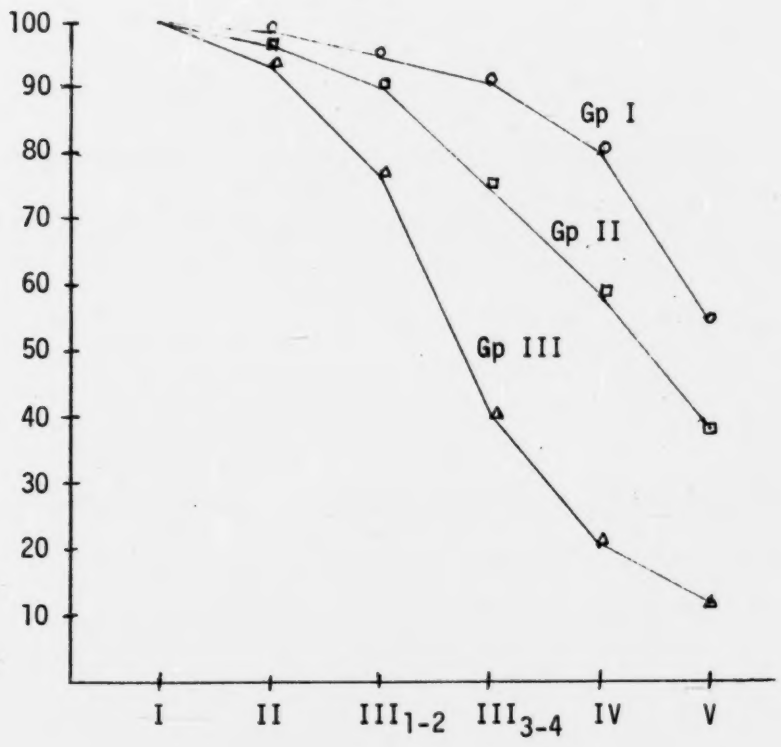


Figure 1. PERCENT OF CHILDREN IN THREE GROUPS COMPLETING PHASES AT END OF 1970-71 YEAR

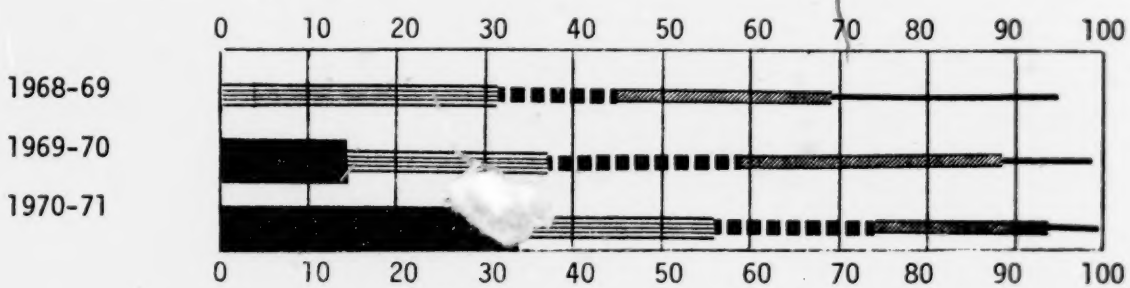
1970-71 Compared to Previous Years

A comparison of 1970-71 child achievement data with the previous two years shows dramatic progress in booth operation for both kindergarten and first-grade children (Tables 2 and 3).

Table 2. PERCENT OF KINDERGARTEN CHILDREN COMPLETING BOOTH ACHIEVEMENT PHASES DURING 1968-69, 1969-70 AND 1970-71 TABLED AND GRAPHED

Year	Number	Percent Who Completed Phase					
		I	II	III(1-2)	III(3-4)	IV	V
1968-69	801	100	92	68	44	31	*
1969-70	1308	100	98	87	59	37	14
1970-71	1391	100	99	93	73	56	33

*No Phase V in 1968-69.



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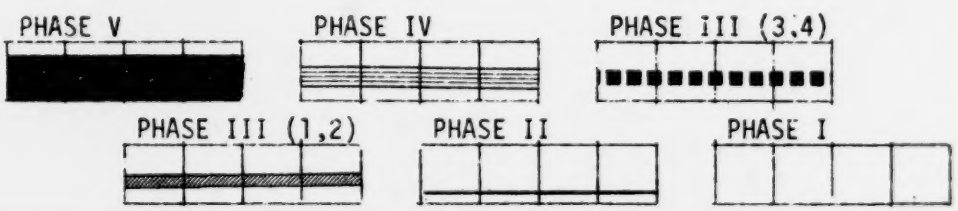
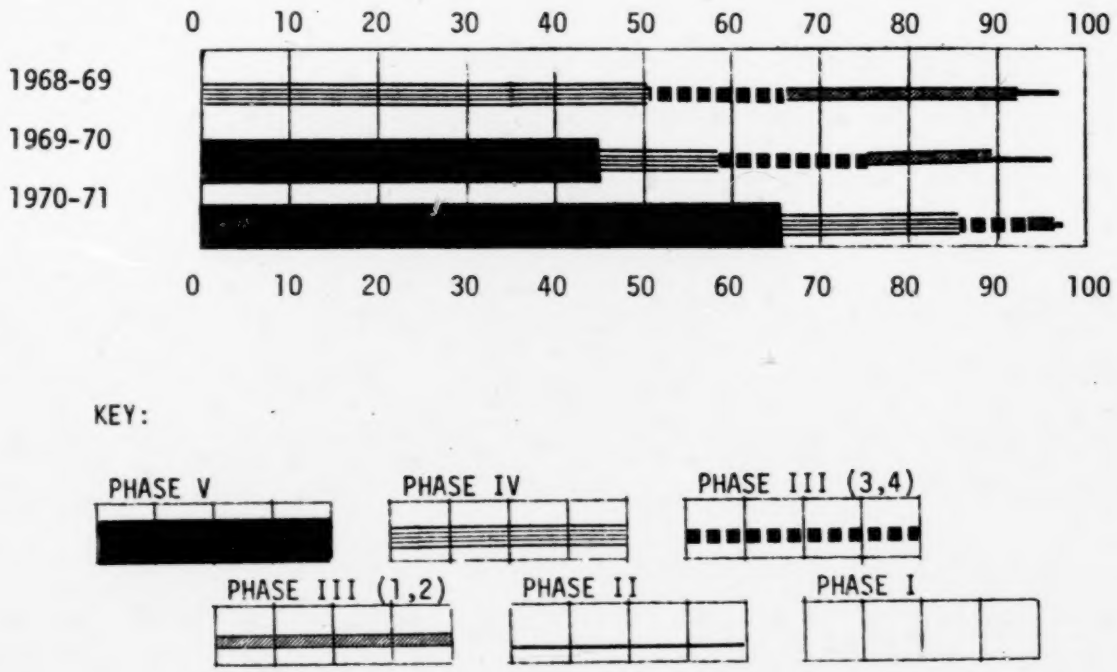


Table 3. PERCENT OF FIRST-GRADE CHILDREN COMPLETING BOOTH ACHIEVEMENT PHASES DURING 1968-69, 1969-70 AND 1970-71 TABLED AND GRAPHED

Year	Number	Percent Who Completed Phase					
		I	II	III(1-2)	III(3-4)	IV	V
1968-69	300	100	96	91	63	50	*
1969-70	1083	100	96	89	75	58	45
1970-71	1064	100	99	98	93	86	66

*No Phase V in 1968-69.



Of kindergarten children, 44% met the criterion and completed Phase III in 1968-69, 59% met the criterion in 1969-70 and 73% did so by the end of the 1970-71 school year. Growth shown by first-grade achievement is equally impressive: 63% completed Phase III in 1968-69, 75% did so in 1969-70, and 93% did so in 1970-71. During the 1968-69 school year, materials and procedures for Phase V were in the developmental stage; consequently, a child could attain only Phase IV.

By the 1969-70 school year, Phase V was developed, and the initial Learning Booth manual had undergone extensive improved revision. These changes with the year's experience of 1968-69 probably account for the increased achievement made in the 1969-70 school year.

Besides two years of experience, the main programmatic variable to account for the progress in achievement between 1969-70 and 1970-71 is the Senior Booth Attendant. One booth attendant in each district, usually one of the best attendants, was designated as the Senior Booth Attendant.

The Senior Booth Attendant was responsible for the overall booth operation. In this role, the Senior Booth Attendant could oversee the booth operation and was available to answer directly questions on booth training raised by booth attendants or handle problems when they arose.

The Laboratory asked all booth attendants to contact their Senior Booth Attendant if they had questions or problems. If the questions were not answered or the problems not solved satisfactorily, the booth attendants were then to contact the Laboratory. During the 1970-71 year, only three problems were brought to the Lab's attention; they were handled by written communication.

The creation of the position of Senior Booth Attendant had many benefits. Problems were handled on the spot without delay. If a booth attendant resigned, the Senior Booth Attendant was able to hire and train the replacement with a minimum of delay. The quality of booth operations was improved, and most important, the Learning Booths operated one to three months longer in 1970-71 than in the previous two years.

B. Objective II - Providing Training

The second objective related to the product was to provide sufficient training to enable the purchaser to set up and operate a Learning Booth for young children.

To satisfy this second objective, the booth must be operated to satisfy the following responsive environment guidelines:

1. It permits the learner to explore freely.
2. It informs the learner immediately about the consequences of his actions.
3. It is self pacing, i.e., events happen within the environment at a rate determined by the learner.
4. It permits the learner to make full use of his capacity for discovering relations of various kinds.
5. Its structure is such that the learner is likely to make a series of interconnected discoveries about the physical, cultural, or social world.

Approaches to Training

Two approaches to training were tried and evaluated. The first approach required having Senior Booth Attendants from each participating Follow Through district travel to the Laboratory for training. After a five-day course conducted by a Lab staff member, the person referred to as the Senior Booth Attendant returned to the district to set up a booth and train a cadre of booth attendants.

Criterion Statements

After training, Senior Booth Attendants would be able to set up and operate a Learning Booth program. Further, 80% of booth attendants trained by Senior Booth Attendant would be judged to operate at acceptable levels, consistent with the five responsive procedures listed above and following specific operational procedures outlined in the Guide for Learning Booth Attendants.

A second approach was tried to see if the Guide for Learning Booth Attendants alone could provide sufficient information to allow booth attendants to set up and operate the Learning Booth.

The criterion for the success of this approach was that adults who were receptive to children would be able to set up and operate a Learning Booth after receiving only the Guide.

Findings

Laboratory-Conducted Five-Day Training Sessions for Senior Booth Attendants

In September of 1970, fourteen Senior Booth Attendants traveled to the Laboratory for a five-day training session. A fifteenth was trained by the Laboratory in November, 1970. The training centered around materials in the Guide and included a discussion of the responsibilities of the Senior Booth Attendants, the setting up of a Learning Booth, keeping accurate records, and role playing the various phases of Learning Booth instruction.

The trainees then returned to their districts to set up and operate a booth. After a period of time to allow for implementation, each of the 15 districts operating Learning Booths during 1970-71 were visited by a Laboratory staff member. Travel to these communities was based on convenience, with districts near the Laboratory visited first (i.e., Berkeley, Fresno, Reno, Tacoma). Information collected at these first five sites was used to develop an evaluation instrument that could be used to evaluate systematically the quality of booth implementation and operation. The instrument was then used in each of the remaining ten communities.

The resulting observation instrument is shown and discussed in Appendix A. Briefly, the instrument collects data in two areas. The first part deals with the adequacy of records kept by the booth attendants. From these records, adherence to recommended booth operating procedures can be assessed. For example, the observer can determine if the children are being given an equal number of opportunities to come to the booth, if children are moving through phases individually

rather than as a group, if an unusual number of children are refusing their turn, and if children are exploring new phases.

A second part of the instrument requires a five- to ten-minute observation of the booth attendant's performance working with a child in the booth. This section asseses process variables such as whether the attendant is allowing for discovery learning, responding verbally, offering a pleasant learning environment by not threatening a child, using flow charts, etc.

Finally, the observer rates the overall quality of the booth operation on a "poor-good-excellent" continuum.

Observation Data

Sixty observations were conducted at ten sites by the same Laboratory observer. After observing, this person also performed a training function, providing feedback and when necessary assistance to improve booth operations. This dual role allowed for the collection of data in a large number of locations with minimum expense.

In addition to the observation data, written reports of each district's progress, problems and needs were compiled. These reports were used for grouping districts by implementation level as discussed previously.

Data on the quality of the booth operation and booth experiences offered to children for the ten districts observed are summarized in Table 4.

Table 4. SUMMARY OF BOOTH OBSERVATION SCHEDULE TALLIES COLLECTED ON 60 LEARNING BOOTHS IN 10 DISTRICTS

Part of Instrument	Number of Items	Tallies		No Info
		Satisfactory	Unsatisfactory	
I. Record Keeping and General Booth Operation	8	452	20	8
		94%	4%	2%
II. Observation Information In-the-Booth-Performance	12	618	85	17
		86%	12%	2%

III. Overall Rating of Booth

	Poor		Good		Excellent
	1	2	3	4	5
Number	3	8	11	17	21
%	5	13	18	28	35

18% 82%

All 8 items on Part I of the observation schedule dealing with record keeping and general booth operation were used and tallies appear in Table 4. Of 480 possible tallies (8 items x 60 observations), 94% indicated satisfactory operation. This meant that charts and records were filled and used correctly; children were given an equal opportunity to come to the booth; children were not refusing their turn and were moving ahead through phases at their own pace.

On the second part of the observation schedule, four items (9, 12, 16b, 16c) were deleted from the analysis. Item 9 (Does the booth attendant ask a child to the booth when he is uninvolved in an activity?) was not always observable since the observer often remained in the booth observation room and could not follow an attendant into the classroom. Item 12 (If the child talks, does the booth

attendant respond to his talking?) and the remaining two items (If a child has trouble solving a problem, does the booth attendant: 16b - respond to the child verbally,? 16c - respond to the child nonverbally?) were difficult to interpret and score. Sometimes it was "satisfactory" for an attendant to respond verbally to a child and other times it was appropriate for the booth attendant to be silent and allow for discovery. Interpretation of these observations is difficult and was not included in the analysis.

Tallies made on the remaining 12 items for Part II show 86% of the tallies were in the desired categories. Booth attendants were following principles and procedures of a responsive environment. Children were given choices and were allowed to explore and solve problems on their own. Children were being treated with respect and the adults responded to the children.

The third part of the observation required that an overall rating of booth quality be made. Eighty-two percent of the 60 booths were judged to be operating at a "good to excellent" level. Eleven (18%) booths were not satisfactory, three being "poor."

Booth Attendant Effectiveness and Child Booth Achievement

To study the relationship between booth attendant effectiveness and child booth achievement, achievement data for 673 kindergarten children and 912 first grade children whose booth attendant had been rated by a Laboratory observer were examined. The achievement data were grouped according to the rating given the booth attendant (1 = poor, 2 = below average, 3 = good, 4 = above average, 5 = excellent). Tables 5 and 6 present for each rating category (except "1", as no booth attendants were rated in this category) the percentage of children who completed each phase of the Learning Booth. Figures 2 and 3 depict the relationship between booth attendant ratings and child achievement. The data show that for

Table 5. PERCENT OF KINDERGARTEN CHILDREN WHO COMPLETED EACH PHASE AT END OF 1970-71 FOR FOUR LEVELS OF BOOTH ATTENDANT EFFECTIVENESS

Group	Number of Children	Percent Completing Phase					
		I	II	III 1-2	III 3-4	IV	V
"2" Below Average	111	100	94	79	47	32	23
"3" Good	95	100	97	76	42	31	24
"4" Above Average	203	100	100	98	86	66	33
"5" Excellent	264	100	100	98	90	78	43

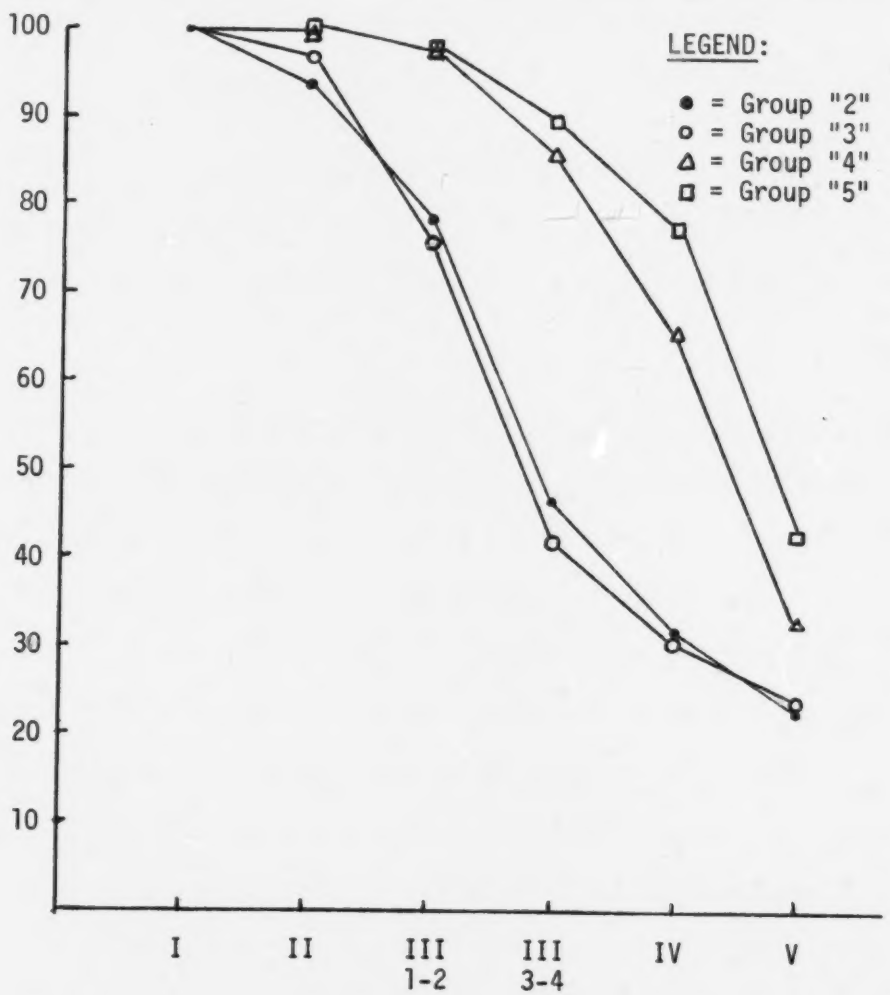


Figure 2. PERCENT OF KINDERGARTEN CHILDREN IN FOUR GROUPS COMPLETING PHASES AT END OF 1970-71

Table 6. PERCENT OF FIRST-GRADE CHILDREN WHO COMPLETED EACH PHASE AT END OF 1970-71 FOR FOUR LEVELS OF BOOTH ATTENDANT EFFECTIVENESS

Group	Number of Children	Percent Completing Phase					
		I	II	III 1-2	III 3-4	IV	V
"2" Below Average	106	100	99	95	92	86	74
"3" Good	131	100	99	97	95	77	48
"4" Above Average	256	100	99	98	93	86	74
"5" Excellent	419	100	100	99	96	92	70

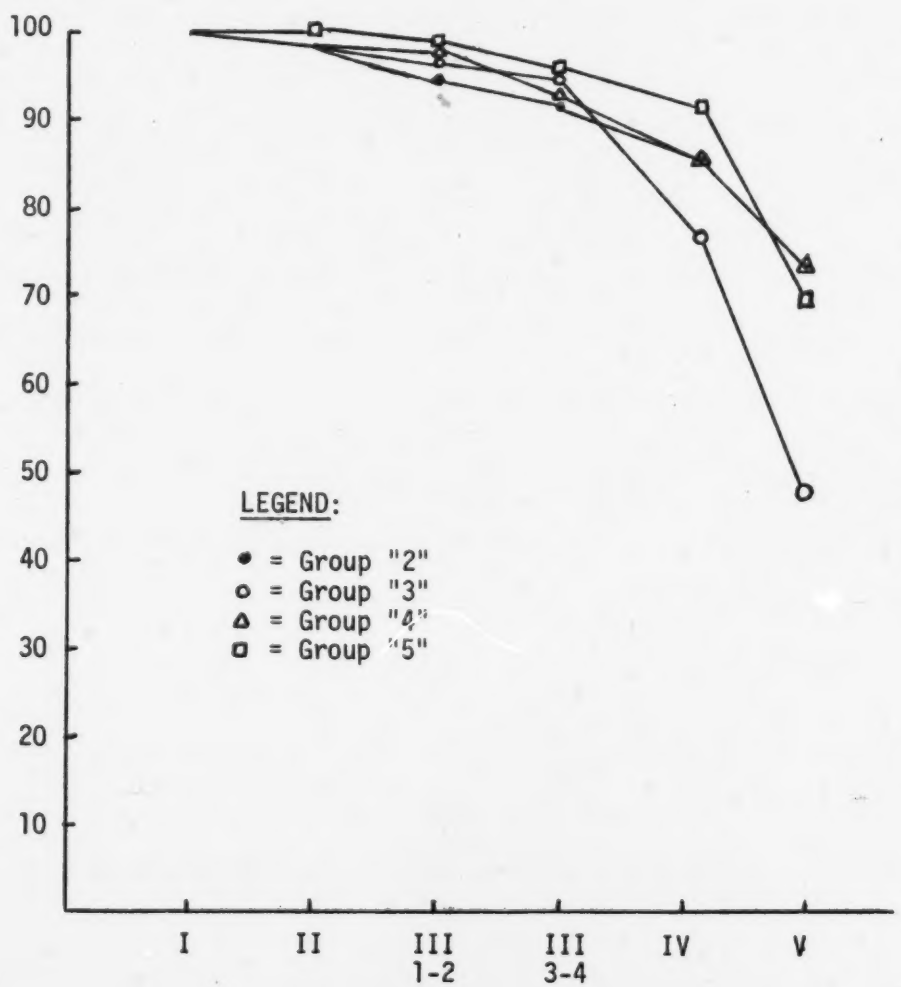


Figure 3. PERCENT OF FIRST-GRADE CHILDREN IN FOUR GROUPS COMPLETING PHASES AT END OF 1970-71

kindergarten children, achievement in the booth is related to the effectiveness of the booth attendant. Achievement of children who worked with attendants who were rated in the "2" and "3" categories did not meet the Laboratory's criterion of 75% completing Phase III (3-4). However, of children working with booth attendants rated in the "4" and "5" categories, 86% and 90%, respectively, completed Phase III (3-4). Furthermore, booth attendants rated as "5" had the highest number of children completing Phase V, 114 or 43% compared to 33% for "4" booth attendants, 24% for "3" booth attendants and 23% for "2" booth attendants. A chi-square analysis of the kindergarten data was significant at the .001 level.

The relationship between quality of booth attendant and child achievement is not distinguishable for the first graders. Over 90% of all first graders completed Phase III. With such a large portion falling in the two remaining phases, there is little variability to explain with variables such as quality of booth attendant.

It is possible that if the booth achievement "ceiling" were higher for the first-grade group, the pattern between quality of booth attendant and child achievement that emerged from the kindergarten data would reappear.

Development of a Guide for Use in Training

The second training approach was to develop a manual that could be used without formal training to provide information to allow for the self-training of booth attendants.

The Guide for Learning Booth Attendants represents the efforts directed toward meeting this self-training objective. It replaced two earlier Learning Booth manuals, the edition published in the 1968-69 school year and a revised

edition published in the 1969-70 school year. Data and suggestions from booth attendants who used the 1968-69 and 1969-70 manuals was incorporated into the 1970-71 Guide.

The 1970-71 Guide is well organized and complete. The large print and spacing make it easy to read. The effective use of photographs and art make it interesting and appealing. After a short introduction, the reader is taken step by step through the operation of the Learning Booth. This step by step process is supplemented by the use of flow charts. After clear directions on how to use flow charts, the reader is shown a flow chart for each separate phase and can easily determine "what to do" based on the child's behavior.

Many examples clarify the written material. A section on "questions most often asked" is provided and a complete list of equipment for use in the booth with costs and ordering addresses, is also a part of the Guide.

Almost 100 booth attendants utilized the Guide for Learning Booth Attendants during the 1970-71 school year. Booth attendants generally praised it, and even after written requests, offered no suggestions to Laboratory personnel for improvements. The Senior Booth Attendants reported that they found the Guide invaluable as a training instrument.

In a separate study of the usefulness of the Guide, the Laboratory tested the Guide with four Learning Booth attendants in a local school district from January until June of 1971. The four booth attendants received only the Guide for Learning Booth Attendants for their training and were observed by a Laboratory trainer.

Four adults were identified, hired, and presented with the Guide. During the remaining five months, they were observed from five to seven times each. Data collected on them using the observation schedule were processed in the same way as were the data collected on the ten districts. The data are presented in Table 7.

Table 7. OBSERVATION TALLIES FOR BOOTH ATTENDANTS WHO USED THE GUIDE ALONE

Booth Attendant	Number of Observations	Part I Tallies			Part II Tallies			Overall Rating
		Unsat.	Satis.	NR	Unsat.	Satis.	NR	
1	5	7	48	1	17	33	3	1.8
2	6	4	44	0	21	41	11	2.1
3	5	0	40	0	2	58	0	5.0
4	6	0	48	0	1	66	5	5.0
1 & 2	Combined %	10	92	1	30	58	11	2.0
3 & 4	Combined %	0	100	0	2	94	4	5.0

As shown, booth attendants 1 and 2 were not operating satisfactorily while attendants 3 and 4 were. The explanation is straightforward. Attendants 1 and 2 had personal problems at home and poor previous employment records. Consequently, they found it difficult to find employment. The principal selected these people in an attempt to offer them employment that might prove helpful for their personal development. Unfortunately, poor job performance continued. Although attendants 1 and 2 could complete charts and records on children, they did not operate the booth satisfactorily. Records in one booth, which were completed correctly, indicated that on the average only three children per day received booth experience. Also, although booth attendants 1 and 2 had evidently spent some time looking over the Guide, they possibly had trouble reading it or understanding its contents. They were not familiar with the procedures for performing in the Learning Booth.

This was reflected in Part II of the observation schedule which showed that 30% of their tallies were in unsatisfactory categories.

Attendants 3 and 4 were selected because they had shown interest in working with children by volunteering in classrooms. They were also observed working with children. They were warm and friendly to children and could interact with children on a personal level.

Booth attendants 3 and 4 had no trouble following booth procedures. They knew the material in the Guide and operated, consequently, excellent booths (see Table 8). In the opinion of the Lab expert in charge of booth training, booth operations in self-taught attendants 3 and 4 were comparable to excellent booths resulting from Laboratory-conducted training.

From these data one cannot make generalizations. However, the experience indicates that the two adults who were interested in working with children who could read the Guide and who could interact with children in a positive way, were successful in using the information found in the Guide to set up and operate a Learning Booth.

APPENDIX A

The Learning Booth Observation Schedule and an Explanation of its Content

The Learning Booth Observation Schedule is given on pp. 28-29.

I. The first section is an evaluation of the adequacy of records kept by the booth attendant. The individual child records can also be examined to determine several items of information.

a. if children are being given an equal number of opportunities to come to the booth. If approximately the same number of boxes is completed for each child, be it the number of minutes the child typed on a particular day or an indication of whether the child refused to visit the booth or was absent on the day of his turn, then children are being given an equal number of opportunities to come to the booth.

b. if children are moving through the phases individually. If a large number (70-80%) of the children are at the same phase and step, they are probably not being allowed to set their own pace and are being moved through the experience as a group.

c. if children are refusing their turn. If over 10% of the children refuse their turn three times in a row, or refuse two out of five times, or continue to ask to leave the booth before their time is up, the booth is probably not a pleasant learning experience.

d. if the time is being varied according to the child's interests. It is unrealistic to expect most children always to stay in the booth a fixed number of minutes each visit. Consequently, if the records indicate that 75% of the children remain in the booth for a fixed amount of time (less than the maximum 10 minutes), the booth is not operating correctly.

e. if children are exploring. If 80% of the children are advancing in the phases rathern than going back to previous ones, the booth is encouraging exploration.

f. if daily record forms are filled in correctly and used. Does booth attendant use the child records to begin a booth session?

g. if the most recent records are kept in a separate file. This allows for a quick check on the progress of any one child and keeps records retrievable.

II. A second section of the Observation Schedule requires the observation of the booth attendant in an actual Learning Booth situation. Observing the booth, the observer checks to indicate:

a. if the attendant asks a child to the booth when that child is uninvolved in a classroom activity.

b. if the child is allowed time to free type at the beginning of his booth session.

c. if the booth attendant calls out the names of letters after the child types them.

d. if the booth attendant responds verbally to the child.

e. if the booth attendant allows the child a chance to solve problems by himself rather than telling the child what to do next (for example, letting the child discover for himself which key returns the carriage).

f. if the booth attendant demeans, threatens or pleads with the child.

g. if the booth attendant terminates the child's time when the child is still interested, instead of letting the child get bored.

h. if the booth attendant follows operating procedures as outlined in the flow charts (see example of Phase I flow chart in Appendix B).

i. if the booth attendant provides a warm learning environment.

At the end of the observation, an overall rating on the quality of the booth attendant is made on a "poor - good - excellent" continuum.

| 1 2 3 4 5 |

DATE OF OBSERVATION: _____

OBSERVER: _____

LEARNING BOOTH OBSERVATION

BOOTH ATTENDANT: _____

SCHOOL : _____ CITY: _____

PHASE & STEP OBSERVED: _____ LENGTH OF OBSERVATION: ____

RECORD KEEPING AND GENERAL INFORMATION*	YES	NO
1. Is the Cumulative Chart filled out correctly? Does it list the phase and step number, the number of minutes, and the reason for leaving for each booth session?		
2. Are children being given an equal number of opportunities to come to the booth? Approximately the same number of boxes should be filled in for each child - be it booth data or a child refusing his turn or being absent on the day of his turn.		
3. Are children moving through the phases individually (self-pacing)? If almost all of the children are in the same phase and step, for example, Phase III, steps 2 and 3, at the same time, then they are probably not being allowed to set their own pace.		
4. Are 10% of the children often refusing their turn (e.g. 3 times in a row or 2 out of 5 times) or asking to leave the booth?		
5. Is the time being varied according to the child's interest (e.g. not always a fixed number of minutes)?		
6. Are 80% of the children advancing in the phases rather than going back to earlier phases?		
7. Are daily record forms filled out correctly? Is the checklist filled out for the most advanced phase?		
8. Are the most recent records kept in a separate folder?		

COMMENTS:

*See pages 147-148 of Booth Guide for a more detailed explanation of Record Keeping.

OBSERVATION INFORMATION

	YES	NO
9. Does booth attendant ask a child to the booth when he is uninvolved in an activity?		
10. Is the child allowed to free type at the beginning of this booth session?		
11. Does booth attendant say the names of the letters as child types?		
12a. Does child talk? 12b. If the child talks, does booth attendant respond to his talking?		
13a. Is child given the choice of whether or not to play another game? 13b. Is the child given a choice of which letter (card, word, phonogram) he is to type? This does not apply to Phase III, step 2.		
14. Does booth attendant let the child solve problems by himself rather than telling the child what to do?		
15. Does child have trouble solving a problem? 15a. If child has trouble solving a problem, is the booth attendant: A. demeaning? B. threatening? C. pleading?		
16. If child has trouble solving a problem, does the booth attendant: A. allow for discovery learning? B. respond to child verbally? C. respond to child nonverbally? D. ask irrelevant questions? E. interrupt or direct?		
17. Does the booth attendant ring the bell at an appropriate time for the child (when the child's interest is still high)?		
18. Does the booth attendant follow the flow charts (if not, explain fully in comments)?		
19. Did the booth attendant provide a warm learning environment?		

COMMENTS:

Overall: How do you rate this booth attendant according to ability to work in the learning booth situation?

1 — 2 — 3 — 4 — 5

poor — good — excellent

APPENDIX B

Observation Data Tallies Collected on Sixty Booth Attendants

Area	Tallies		
	Yes	No	No Info
I. RECORD KEEPING AND GENERAL INFORMATION			
1. Is the Cumulative Chart filled out correctly?	59	1	0
2. Are children being given an equal number of opportunities to come to the booth?	58	0	2
3. Are children moving through the phase individually (self-pacing)?	57	1	2
4. Are children often refusing their turn (e.g., 3 times in a row or 2 out of 5 times) or asking to leave the booth?	56	2	2
5. Is the time being varied according the child's interest (e.g. not always a fixed number of minutes)?	47	13	0
6. Are children advancing in the phases rather than going back to earlier phases?	55	3	2
7. Are daily record forms filled out correctly?	60	0	0
8. Are the most recent records kept separately?	60	0	0
TOTAL	452	20	8
II. OBSERVATION INFORMATION			
9. Does booth attendant ask a child to the booth when he is uninvolved in an activity?	25	4	31
10. Is the child allowed to free type at the beginning of this booth session?	58	2	0
11. Does booth attendant say the names of letters as child types?	50	10	0
12. If child talks, does booth attendant respond to his talking (in a positive way)?	34	0	26
13. Is the child given a choice of which letter (card, word, phonogram) he is to type?	29	16	15
14. Does booth attendant let the child solve problems by himself rather than telling the child what to do?	54	5	1
15. If child has trouble solving a problem, is the booth attendant:			
A. demeaning?	0	60	0
B. threatening?	1	59	0
C. pleading	0	60	0

	Yes	No	No Info
16. If child has trouble solving a problem, does the booth attendant:			
A. allow for discovery learning?	55	5	0
B. respond to child verbally?	58	2	0
C. respond to child nonverbally?	17	43	0
D. ask irrelevant questions?	3	57	0
E. interrupt or direct?	7	53	0
17. Does the booth attendant ring the bell at an appropriate time for the child (when the child's interest is still high)?	40	19	1
18. Does the booth attendant follow the flow charts (if not, explain fully in comments)?	43	17	0
TOTAL	474	412	74

III. OVERALL RATING

	Poor		Good		Excellent
	1	2	3	4	5
Number	3	8	11	17	21
%	5	13	18	28	35
	18%		82%		